TRAVEL MODEL ANALYSIS

Travel Model Analysis takes the existing highway system as it functions today and simulates it using the advanced computer software, TRANPLAN. The existing highway system is made of the road network, traffic on the network, and land use. Once the modelled system functions (or is calibrated) like the existing system; future projections are inputed to develop the future highway system. The model is designed to test different road networks. Effects of future traffic on various road networks are then studied. Transportation modelling is a tool to assist the engineer in testing land use and network alternatives. It is not a substitute for the experience or judgment of the engineer.

Models are developed to (1) estimate trips produced (origins) and trips attracted (destinations) by traffic zones and (2) to estimate travel patterns between zones. Separate models are developed for the three basic types of trips: internal, internal-external, and through. **Internal trips** are defined as those trips which have both an origin and destination inside the planning area. An **internal-external trip** is a trip which has one end inside the planning area and the other outside. **Through trips** are defined as those trips which travel through the area and have both an origin and destination outside the study area. The validity of the models are tested by comparing the traffic volumes computed by the models to traffic volume counts taken on the existing road network.

Present Travel

Travel forecasting models were developed and calibrated for the area using 1991 socio-economic data and traffic counts. The techniques employed are in accordance with North Carolina's Urban Travel Forecasting Procedures.

The planning area increased since the last thoroughfare plan in 1979. The 1979 Thoroughfare Plan is shown in Figure B1. The planning area is approximately 55.7 square miles and includes the entire old planning area. The old planning area has only 30 zones. Whereas the new planning area has 66 zones. Some of the large perimeter zones in the old planning area were split into two or more zones. (See Figure B2). The increase covers areas that now use Farmville for economic purposes. This includes the majority of the Farmville Township, the lower parts of Fountain and Falkland Townships, the western side of Arthur Township, and the northern part of Greene County.

Two surveys obtained the socio-economic data. The surveys were the housing and employment survey. The Town of Farmville provided staff to collect the housing and employment data. Several improvements have been made in North Carolina's travel forecasting procedures for the housing collection. The housing rating was changed to reflect five main categories of economic conditions with an extra sixth condition for special housing. Only five main categories were used in this study. (See Table B2 and B3). The employment survey consists of total employment at